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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/575,819

04/13/2006

Seong-Young Lee

AB-1867 US

5258

32605

7590

11/26/2008

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SUITE 400

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EXAMINER

SALERNO, SARAH KATE

ART UNIT

PAPER NUMBER

2814

MAIL DATE

DELIVERY MODE

11/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/575,819 | Applicant(s) LEE ET AL. | |
| | Examiner SARAH K. SALERNO | Art Unit 2814 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/04/08 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6-8 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Hong et al. (US PGPub 2004/0066481).

Claim 1: Hong teaches a thin film transistor comprising (FIG. 4E):

a gate electrode (201a); a gate insulating layer (208) formed on the gate electrode; a semiconductor layer (205) formed on the gate insulating layer and disposed opposite the gate electrode; a source electrode (202a) and a drain electrode (202b) that are formed at least in part on the semiconductor layer and face each other;

a passivation layer formed on the source electrode, the drain electrode, and a portion of the semiconductor layer that is not covered with the source electrode and the drain electrode [0050]; and

a shielding electrode (224) formed on the passivation layer and disposed on a region between the source electrode and the drain electrode, wherein the shielding electrode provides voltage shielding from the region on which it is disposed, and wherein the shielding electrode comprises a transparent electrode (FIG. 4a-e; [0047-0051]).

Claim 2: Hong teaches the shielding electrode is electrically isolated (FIG. 4a-e; [0047-0051]).

Claim 3: Hong teaches a shielding electrode is supplied with a predetermined voltage to prevent the accumulation of electric charge on the light-shield film (FIG. 4a-e; [0047-0051]).

Claim 4: Hong teaches the predetermined voltage supplied to the shielding electrode is equal to or lower than a ground voltage (FIG. 4a-e; [0047-0051]).

Claim 6: Hong teaches the shielding electrode comprises IZO or ITO (FIG. 4a-e; [0047-0051]).

Claim 7: Hong teaches the shielding electrode has a shape of horseshoes (FIG. 4a-e; [0047-0051]).

Claim 8: Hong teaches the passivation layer comprises an organic insulator (FIG. 4a-e; [0047-0051]).

Claim 26: Hong teaches the shielding electrode is formed on the channel portion of the thin film transistor (FIG. 4a-e; [0047-0051]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. (US PGPub 2004/0066481), as applied to claim 3 above, and further in view of Kubota (JP Pub No. 10-098190 of record)

Regarding claim 5, as described above, Hong substantially read on the invention as claimed, except Hong does not teach teaches the predetermined voltage supplied to the shielding electrode is a negative voltage. Kubota teaches the predetermined voltage supplied to the shielding electrode is a negative voltage [0039] to prevent characteristic degradation of the image display device (Abs). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the voltage supplied to the shielding electrode to be negative to prevent characteristic degradation as taught by Kubota (Abs, [0039]).

6. Claims 9-12, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. (US PGPub 2004/0066481) in view of Nishida et al. (US PGPub 2002/0159016).

Claim 9: Hong teaches a thin film transistor array panel comprising:
a gate line and a data tie line;

a first thin film transistor including a control electrode, an input electrode, an output electrode, and a channel portion disposed between the input electrode and the output electrode and generating a gate signal to be applied to the gate line;

a second thin film transistor including a gate electrode connected to the gate line, a source electrode connected to the data line, a drain electrode, and a channel portion disposed between the source electrode and the drain electrode and transmitting a data signal from the data line in response to the gate signal from the gate line;

a pixel electrode connected to the drain electrode to receive the data signal; and
a first shielding electrode disposed on the channel portion of the first thin film transistor (FIG. 4a-e; [0047-0051]).

Hong does not teach the first shielding electrode is formed of the same layer as the pixel electrode. Nishida teaches the first shielding electrode (26) is formed of the same layer as the pixel electrode (27) to decrease the number of processing steps (FIG. 2; [0318]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device taught by Hong to have the first shielding electrode formed on the same layer as the pixel electrode to decrease the number of processing steps as taught by Nishida (FIG. 2; [0318]).

Claim 10: Hong teaches the shielding electrode is electrically isolated (FIG. 4a-e; [0047-0051]).

Claim 11: Hong teaches a shielding electrode is supplied with a predetermined voltage to prevent the accumulation of electric charge on the light-shield film (FIG. 4a-e; [0047-0051]).

Claim 12: Hong teaches the predetermined voltage supplied to the shielding electrode is equal to or lower than a ground voltage (FIG. 4a-e; [0047-0051]).

Claim 18: Hong teaches the passivation layer comprises an organic insulator (FIG. 4a-e; [0047-0051]).

Claim 19: Hong teaches a display device comprising:
a gate line and a data line; a first thin film transistor including a channel portion and generating a gate signal to be applied to the gate line; a second thin film transistor transmitting a data signal from the data line in response to the gate signal from the gate line;

a pixel electrode connected to the second thin film transistor to receive the data signal; a shielding electrode disposed on the channel portion of the first thin film transistor; and a common electrode facing the pixel electrode (FIG. 4a-e; [0047-0051]).

Hong does not teach wherein the shielding electrode is formed of the same layer as the pixel electrode. Nishida teaches the first shielding electrode (26) is formed of the same layer as the pixel electrode (27) to decrease the number of processing steps (FIG. 2; [0318]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device taught by Hong to have the first shielding electrode formed on the same layer as the pixel electrode to decrease the number of processing steps as taught by Nishida (FIG. 2; [0318]).

Claim 20: Hong teaches the shielding electrode faces, the common electrode (FIG. 12).

7. Claims 13-14 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. (US PGPub 2004/0066481) in view of Nishida et al. (US PGPub 2002/0159016) as applied to claim 11 above, and further in view of Kubota (JP Pub No. 10-098190 of record)

Regarding claim 13, as described above, Hong substantially read on the invention as claimed, except Hong does not teach teaches the predetermined voltage supplied to the shielding electrode is a negative voltage. Kubota teaches the predetermined voltage supplied to the shielding electrode is a negative voltage [0039] to prevent characteristic degradation of the image display device (Abs). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the voltage supplied to the shielding electrode to be negative to prevent characteristic degradation as taught by Kubota (Abs, [0039]).

Claim 21: Kubota teaches the shielding electrode is supplied with a predetermined voltage lower than a voltage applied to the common electrode [0004, 0013, 0018-0019, 0022, 0050-0059].

Claims 14 & 22: Kubota teaches the predetermined voltage supplied to the first shielding electrode has a magnitude for turning of the second thin film transistor [0004, 0013, 0018-0019, 0022, 0050-0059].

8. Claims 16-17 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. (US PGPub 2004/0066481) in view of Nishida et al. (US

PGPub 2002/0159016) as applied to claim 9 above, and further in view of Kubo (US Patent 6,091,467 of record)

Regarding claim 16, as described above, Hong and Nishida substantially read on the invention as claimed, except Hong and Nishida do not teach a second shielding electrode disposed on the channel portions of the second thin film transistor and including the same layer as the pixel electrode. Kubo teaches a second shielding electrode disposed on the channel portions of the second thin film transistor and including the same layer as the pixel electrode (Description of the Related Art; Figs. 9-10, 12) as being known in the art. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device taught by Hong and Nishida to have a second shielding electrode disposed on the channel portions of the second thin film transistor and including the same layer as the pixel electrode as taught by Kubo to be known in the art (Description of the Related Art; Figs. 9-10, 12)

Claim 17: Kubo teaches an insulating layer disposed between the first and the second thin film transistors and the first and the second shielding electrodes (Description of the Related Art; Figs. 9-10, 12).

Claim 24: Kubo teaches a dielectric layer (216) disposed between the shielding electrode and the common electrode (FIG. 12).

Claim 25: Kubo teaches the dielectric layer (216) comprises a liquid crystal layer (col. 2 lines 10-20).

Response to Arguments

9. Applicant's arguments with respect to claims 1-14, 16-22 and 24-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH K. SALERNO whose telephone number is (571)270-1266. The examiner can normally be reached on M-F 8:00-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. K. S./
Examiner, Art Unit 2814

/Theresa T. Doan/
Primary Examiner, Art Unit 2814